

1. A wire section for forming a multi-ply fiber web, the wire section comprising:

a twin-wire part including a first wire section wire and a second wire section wire defining a gap former;

first guide elements for causing the first and second wires to run together for supporting a layer of fiber suspension between the first and second wires and forming a second fiber ply;

20 a combining section for combining the
first and second plies wherein the second ply is above
the first ply and for forming the multi-ply fiber web in
the combining section;

the twin-wire part being upstream of the combining section with respect to the running direction of the first belt;

25 after the first and second wires run
together to form the second fiber ply, the first and

second wires being supported to separate so that the second fiber ply continues supported on the first wire and the first wire with the second ply entering the combining section; second guide elements supporting the first wire as it enters the combining section to orient the first wire at an angle less than 90° with respect to the first belt entering the combining section; and third guide elements for guiding the second wire so as to not enter the combining section.

2. The wire section of claim 1, wherein the belt is guided to advance in a first direction; the first and second wires are guided by the first guide elements to advance in a second direction and the first and second directions aim toward the combining section.

3. The wire section of claim 2, wherein the gap former has a beginning oriented so that the inflow direction of the fiber suspension for forming the second fiber ply is substantially identical to the running direction of the belt.

4. The wire section of claim 2, wherein the angle at which the first wire enters the combining section with respect to the belt is in the range of 60° to 80° .

5 5. In combination, the wire section of claim 4, with a headbox having an outlet oriented for supplying suspension to the beginning of the gap former and between the first and second wires in an inflow direction which is substantially equal to the running direction of the belt.

6. The wire section of claim 2, wherein the combining section comprises a couch roll.

7. The wire section of claim 6, wherein the couch roll has a diameter approximately equal to the diameter of the forming roll.

8. The wire section of claim 2, wherein the first wire is an endless first loop and the first guide elements guide the first wire in the first loop;

5 a suction separator in the loop of the first wire along the path where the first and second wires are moving in the second direction, the suction separator for separating the second wire from the second fiber ply and from the first wire, whereby the second fiber ply continues to travel on the separated first wire.

9. The wire section of claim 2, wherein the first wire is an endless first loop and the first guide

elements guide the first wire in the first loop; the forming roll being in the first loop of the first wire.

10. The wire section of claim 2, wherein the combining section comprises a couch roll;

the first loop of the first wire is so guided that the couch roll is located in the first loop.

11. The wire section of claim 10, wherein the first wire is a top wire and the second wire is a bottom wire.

12. The wire section of claim 11, wherein the second wire is an endless second loop and the first guide elements guiding the second wire in the second loop;

the second wire being so shaped and guided
5 by the guide elements that the forming roll is located in the second loop.

13. The wire section of claim 12, wherein the path in the second direction between the forming roll and the couch roll is free of any further rolls touching the first wire.

14. The wire section of claim 12, further comprising a dewatering arrangement in the first loop between the forming roll and the couch roll.

15. The wire section of claim 14, wherein the dewatering arrangement comprises stationary forming foils having edges which contact the first wire for pressing thereupon.

16. The wire section of claim 15, wherein the forming foils are so positioned that their ends contacting the first wire define a convexly curved running surface shaped so that the second wire is deflected through an angle in the range of 0° and 20° .

17. The wire section of claim 15, further comprising a suction box associated with the forming foils for assisting in the dewatering of the suspension passing on the wires past the foils.

18. The wire section of claim 15, further comprising second forming foils in the second loop of the second wire and having edges supported for compliant pressing against the second wire and opposed to the stationary foils against the first wire.

19. The wire section of claim 18, wherein the stationary foils against the first wire and the second foils against the second wire are arranged to alternate in the second direction.

20. The wire section of claim 12, further comprising a deflection roll along the path of the first and second wires between the forming roll and the couch roll and the first and second wires jointly wrapping around the deflection roll.

21. The wire section of claim 20, further comprising a plurality of foils arrayed along the path of the wires passing the forming roll, the foils having edges which are supported to be compliantly pressed toward the forming roll and against the wires passing the forming roll.

22. The wire section of claim 2, further comprising a suction box at the first wire for aiding in the dewatering of the first wire.

23. The wire section of claim 22, further comprising forming foils positioned at the suction box at the side of the first wire for applying pressure on the first wire.

24. The wire section of claim 23, further comprising further forming foils at the second wire for applying pressure on the second wire.

25. The wire section of claim 24, further comprising a dewatering arrangement disposed on the path of the first wire and the second fiber ply before the combining section.

26. A process for forming a multi-ply fiber web comprising:

moving a belt in a first direction toward a combining section, and forming a first fiber ply on the moving first belt;

forming a second fiber ply on a first wire section wire; advancing the first fiber section wire with the second ply thereon in a second direction toward the combining section;

combining the first fiber ply on the first belt on and with the second fiber ply on the first wire belt in the combining section;

the second fiber ply being formed in a region which, along the first direction of the first belt, lies upstream of the combining section, and running the second fiber ply of the first wire in the second direction into the combining section at an angle of less than 90° with respect to the first belt.

27. The process of claim 26, further comprising forming the second fiber ply in a twin-wire part between the first and a second wire which define a

gap former, moving the first and second wires together in the second direction toward the combining section;
separating the first and second wires before the combining section; and
retaining the second fiber ply on the first wire before the first wire with the second ply enters the combining section.

2bE'

add B² & C²

add 2